Supporting Information

High Resolution Optical Linewidth Measurements as a Materials Characterization Tool.

Nathalie Kunkel,*[1] John Bartholomew,[1] Laurent Binet,[1] Akio Ikesue,[2] and Philippe Goldner[1]

[1] PSL Research University, Chimie ParisTech, CNRS, Institut de Recherche de Chimie Paris,

11 rue Pierre et Marie Curie, 75005 Paris, France; nathalie.kunkel@chimie-paristech.fr

[2] World Laboratory, Mutsuno,

Atsuta-ku, Nagoya 456-0023, Japan

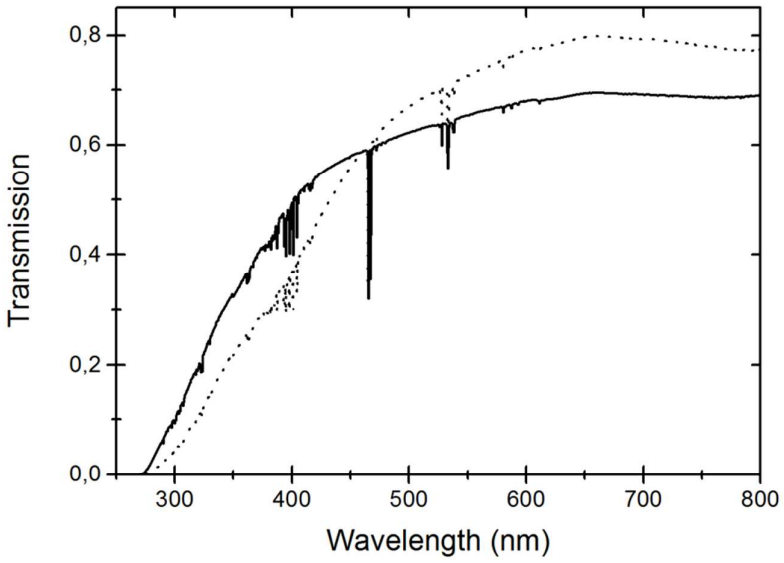

Figure S1: Transmission spectra of Eu^{3+}:Y_2O_3 ceramics with 0.5 % Eu^{3+} and with ZrO_2. Solid line: no post HIP annealing. Dotted line: with post HIP annealing.

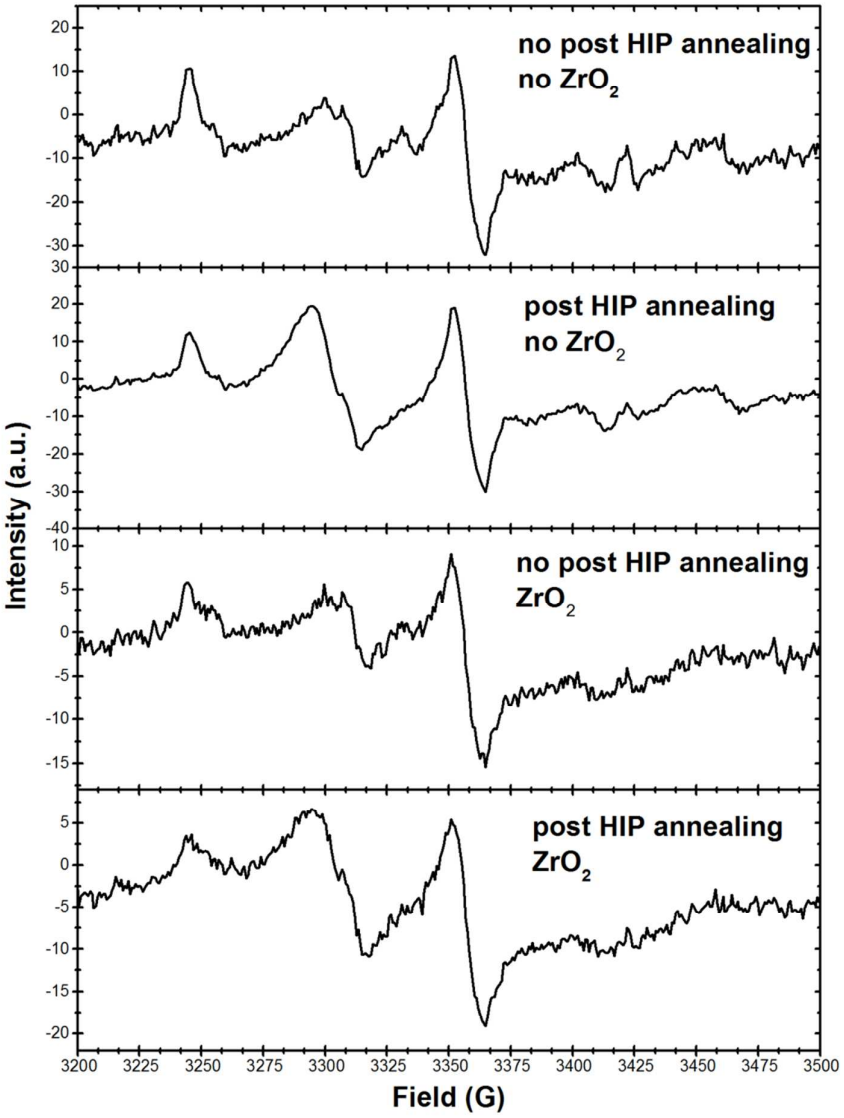

Figure S2: Comparison of the normalized X-band EPR room temperature spectra of Eu^{3+}:Y_2O_3 transparent ceramic with 0.5% Eu^{3+} with and without ZrO_2 and with and without post HIP annealing.

Table S1: Intensities for the O_2^- signal with g=2.0029(3) and the F^+ signal with g=1.9703(3) determined by estimated ΔB^2 H (ΔB = peak-to-peak linewidth, H = peak-to-peak height).

[Eu^{3+}] %	[Zr^{4+}]%	Annealing	EPR Intensity O_2^-	EPR Intensity F^+
0.5	-	-	4591	8024
0.5	0.5	-	2411	4886
0.5		X	15812	9023
0.5	0.5	X	10505	5202
1.0	-	-	5757	6649
1.0	0.5	-	1797	4559
1.0		X	123764	33352
1.0	0.5	X	45486	7574